Bruhat Bangalore Mahanagara Palike

Executive Engineer
Yelhanka Division

DETAILED ESTIMATE

Name of Work: Improvements and providing path way at Yelhanka Degree college and construction of lead drain at Yelhanka railway underpass Govt.High school in Ward No.1 of Yelhanka Sub division.

PROJECT COST: 50.00 Lakhs

Mecadez Core Technologies Private limited

Project Management and Consultancy Services

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BRUHAT BANAGLORE MAHANAGARA PALIKE

Executive Engineer-Yelhanka Division

Detailed Estimate

Name of Work: **Improvements and providing path way at Yelhanka Degree college and construction of lead drain at Yelhanka railway underpass Govt.High school in Ward No.1 of Yelhanka Sub division**

Estimate Amount : 5000000.00

Sl. No.	Particulars	Unit / Rate	Nos	L in m	B in m	D in m	Quantity	Rate in Rs	Total Amount in Rs
	CIVIL WORKS								
1	KSRRB 300-1. **Earthwork excavation by manual means** in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 1.5 m, excavated surface leveled and sides neatly dressed, the disposed earth to be leveled neatly after breaking of clods complete as per specifications. MORTH / Chapter 3 **(Page No141., I.No.19.1 of KPWD S.R 2015-16).**								
	New Drain	Cum							
	Lead off drain back side of degree college road								
	Ch: (121 - 139)		1	18	1.50	0.800	21.60		
	Ch: (139 - 165)		1	26	1.50	0.800	31.20		
	Lead off drain towards canteen								
	Ch: (0 - 37)		1	37	0.80	0.800	23.68		
	PU College								
	Drain		1	50	1.20	0.800	48.00		
	Culvert		1	7	1.80	0.800	10.08		
	Sugappa layout								
	Drain	L/s	1	64	1.20	0.800	61.44		
	Retaining wall for land scape near ground								
			2	24	0.50	0.500	12.00		
	Retaining wall for land scape near Sabangana								
			2	28	0.50	0.500	14.00		
							222.00	**168.76**	**37464.72**
2	KSRB 4-1.2 : Providing and laying in **position plain cement concrete of mix1:3:6** with OPC cement @ 220kgs, with 40mm and down size graded granite metal coarse aggregates @0.892cum and fine aggregtes @ 0.465cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted,in foundation including cost of all materials, labour, HOM of machinery, curing complete as per specifications.Specification No. KBS 4.1, 4.2 **(Page No 12., I.No.4.2 of KPWD S.R 2015-16).**								
	New Drain	Cum							
	Lead off drain back side of degree college road								
	Ch: (121 - 139)		1	18	1.20	0.100	2.16		
	Ch: (139 - 165)		1	26	1.20	0.100	3.12		
	Sugappa layout								
	Drain	L/s	1	64	0.90	0.100	5.76		
	PU College								
			1	50	0.90	0.100	4.50		
	Culvert		1	7	1.50	0.100	1.05		

Sl. No.	Particulars	Unit / Rate	Nos	L in m	B in m	D in m	Quantity	Rate in Rs	Total Amount in Rs
							16.59	5236.92	86880.50
3	Providing and laying Plain /reinforced cement concrete **M20** for Box drain walls of thickness 10cm to 20cm including centring shuttering for work etc. complete as per approved drawing and design MORTH specification No.1500,1700,2200 **(Page No258., I.No.37.59.2 of KPWD S.R 2015-16).**								
		Cum							
	Raft								
	New Drain								
	Lead off drain back side of degree college road								
	Ch: (121 - 139)		1	18	1.20	0.150	3.24		
	Ch: (139 - 165)		1	26	1.20	0.150	4.68		
	Lead off drain towards canteen								
	Ch: (0 - 37)		1	37	0.60	0.100	2.22		
	Sugappa layout								
	Drain	L/s	1	64	0.90	0.150	8.64		
	PU College								
			1	50	0.90	0.150	6.75		
	Culvert		1	7	1.50	0.200	2.10		
	Wall								
	New Drain								
	Lead off drain back side of degree college road								
	Ch: (121 - 139)		2	18	0.15	0.800	4.32		
	Ch: (139 - 165)		2	26	0.15	0.800	6.24		
	Lead off drain towards canteen								
	Ch: (0 - 37)		2	37	0.10	0.600	4.44		
	Sugappa layout								
	Drain	L/s	2	64	0.15	0.800	15.36		
	PU College								
			2	50	0.15	0.800	12.00		
	Culvert		2	7	0.20	0.800	2.24		
							72.23	6931.44	500657.91
4	Providing and laying cement concrete using 20mm and down size granite coarse aggregates and fine aggregates of ready mixed concrete for RCC works laid in 15 cm thick layers and well compacted including vibrating curing etc., including smooth finish in CM 1:3, with all lead and lift etc., complete. (exculsive of cost of steel and fabrication charges) Ready mixed Cement concrete for Beams, Columns, Staircase and Roof with **M-20 (Page No 18., I.No.4.49.1 of KPWD S.R 2015-16).**								
		Cum							
	Retaining wall for land scape near ground								
	Raft								
			1	24	0.50	0.200	2.40		
			1	24	0.50	0.200	2.40		
	Wall								
			1	24	0.15	1.500	5.40		
			1	24	0.15	1.000	3.60		
	Retaining wall for land scape near Sabangana								
	Raft								

Sl. No.	Particulars	Unit / Rate	Nos	L in m	B in m	D in m	Quantity	Rate in Rs	Total Amount in Rs
			1	28	0.50	0.200	2.80		
			1	28	0.50	0.200	2.80		
	Wall								
			1	28	0.15	1.500	6.30		
			1	28	0.15	1.000	4.20		
							29.90	**6332.04**	**189328.00**
5	KSRB 4-6.4 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for **vertical surface** such as walls at any thickness , ncluding attached pilasters, buttresses, plinth and string courses cost of all materials, labour complete as per specificaitons. Specification No. KBS 4.6.2 **(Page No 15., I.No.4.31 of KPWD S.R 2015-16).**								
		Sqm							
	Retaining wall for land scape near ground								
	Raft								
			2	24		0.200	9.60		
			2	24		0.200	9.60		
	Wall								
			2	24		1.500	72.00		
			2	24		1.000	48.00		
	Retaining wall for land scape near Sabangana								
	Raft								
			2	28		0.200	11.20		
			2	28		0.200	11.20		
	Wall								
			2	28		1.500	84.00		
			2	28		1.000	56.00		
							301.60	**306.72**	**92506.75**
6	KSRB 4.9.2 : Providing **T .M.T steel reinforcement** for R.C.C work including straightening, cutting, bending, hooking, placing in position, lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM of machinery complete as per specifications. Specification No. KBS 4.6.3 for TMT Bars Fe500 **(Page No 17., I.No.4.46.2 of KPWD S.R 2015-16).**								
		Tonne							
	Taking 60kg/m3								
				102.13*60/1000			6.13		
							6.13	**69805.80**	**427755.98**
7	Providing **precast slab of 100 mm thick** including cost of all materials, labour, curing,transportation,loading ,unloading,etc.,complete as per the direction of engineer in charge- **Data rate**								
		Sqm							
	Covering Slab								
	Lead off drain back side of degree college road								
	Ch: (0 - 86)		1	3	1.20		3.60		
	Ch: (86 - 121)		1	35	1.20		42.00		
	Ch: (121 - 139)		1	18	1.20		21.60		
	Ch: (139 - 165)		1	26	1.20		31.20		

Sl. No.	Particulars	Unit / Rate	Nos	L in m	B in m	D in m	Quantity	Rate in Rs	Total Amount in Rs
	Lead off drain towards canteen								
	Ch: (0 - 37)		1	37	0.60		22.20		
	Sugappa layout								
	Drain	L/s	1	64	0.90		57.60		
	PU College								
			1	50	0.90		45.00		
							223.20	**1834.00**	**409348.80**
8	Providing precast slab of 250mm thick including cost of all materials, labour, curing,transportation,loading ,unloading,etc ,complete as per the direction of engineer in charge-Data rate								
		Sqm							
	PU College								
	Culvert		1	7	1.50		10.50		
							10.50	**5111.00**	**53665.50**
9	Providing and fixing pre cast solid cement concrete **kerb stones** made out of C.C. 1:2:4 with top and bottom width 114 and 165 mm respectively, 400mm high and 450mm in length finished with CM 1:3 plastering and finishing cutting, including formwork,curing,including cost of all materials, labour, hire charges of machinery, loading,unloading, lead and lift, transportation etc., complete. **(Page No 25., I.No.5.30 of KPWD S.R 2015-16).**								
		Nos							
	Degree College Entrance CC road								
	Ch: (0 - 85)		2	85			378.00		
	Ch: (0 - 32)		2	32			142.00		
	Degree College Entrance Interlock road								
	Ch: (0 - 30)		2	30			133.00		
	Degree College Parking bay								
	Ch: (0 - 68)		2	68			302.00		
	Around the ground								
	Ch: (0 - 37)		2	37			164.00		
	Ch: (0 - 25)		2	25			111.00		
	Path ways								
			2	11			49.00		
			2	11			49.00		
			2	10			44.00		
	PU College								
			1	50			111.00		
							1483.00	**320.76**	**475687.08**
	ROAD WORKS								
10	KSRRB M300-14. **Excavation for roadwork in all type of soil with hydraulic excavator** of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location to a lead of 1.00 km and complete as per specifications. MORTH Specification No.301 **(Page No 142., I.No.19.14 of KPWD S.R 2015-16).**								
		Cum							
	Degree College Entrance CC road								
	Ch: (0 - 85)		1	85	6.00	0.375	191.25		
	Ch: (0 - 32)		1	32	6.00	0.375	72.00		
	Degree College Entrance Interlock road								
	Ch: (0 - 30)		1	30	4.00	0.150	18.00		
	Degree College Parking bay								

Sl. No.	Particulars	Unit / Rate	Nos	L in m	B in m	D in m	Quantity	Rate in Rs	Total Amount in Rs
	Ch: (0 - 68)		1	68	5.80	0.150	59.16		
	Around the ground								
	Ch: (0 - 37)		1	37	4.00	0.150	22.20		
	Ch: (0 - 25)		1	25	4.00	0.150	15.00		
	Space in b/w Toilets								
			1	8.3	7.00	0.150	8.72		
			1	6.4	5.30	0.150	5.09		
			1	6.3	3.80	0.150	3.59		
	Path ways								
			1	11	4.50	0.150	7.43		
			1	11	3.60	0.150	5.94		
			1	10	4.00	0.150	6.00		
	PU College								
			1	50	3.00	0.425	63.75		
			1	13	3.40	0.425	18.79		
							496.90	**134.20**	**66684.52**
11	KSRRB M400-6.1. Construction of **granular sub-base** by providing close graded material, mixing in a mechaical mix plant at OMC, carriage of mixed material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications. A. Plant Mix Method.Close graded granular sub-base material as per 400-1 For Grading- II Material **(Page No 154., I.No.20.4.2 of KPWD S.R 2015-16).**								
		Cum							
	Degree College Entrance CC road								
	Ch: (0 - 85)		1	85	6.00	0.150	76.50		
	Ch: (0 - 32)		1	32	6.00	0.150	28.80		
	Degree College Entrance Interlock road								
	Ch: (0 - 30)		1	30	4.00	0.150	18.00		
	Degree College Parking bay								
	Ch: (0 - 68)		1	68	5.80	0.150	59.16		
	Around the ground								
	Ch: (0 - 37)		1	37	4.00	0.150	22.20		
	Ch: (0 - 25)		1	25	4.00	0.150	15.00		
	Space in b/w Toilets								
			1	8.3	7.00	0.150	8.72		
			1	6.4	5.30	0.150	5.09		
			1	6.3	3.80	0.150	3.59		
	Path ways								
			1	11	4.50	0.150	7.43		
			1	11	3.60	0.150	5.94		
			1	10	4.00	0.150	6.00		
	PU College								
			1	50	3.00	0.150	22.50		
			1	13	3.40	0.150	6.63		
							285.55	**1622.16**	**463206.17**
12	KSRRB M600-1. Construction of **dry lean cement concrete mix M5** with OPC cement @160Kgs, with 25mm and down size graded granite metal coarse aggregate at 0.86cum and fine aggregates @ 0.58cum Sub- base over a prepared sub-grade with (coarse and fine aggregate aggregates conforming to IS: 383,) aggregate cement ratio not to exceed 15:1,aggregate gradation after blending to be as per Table 600-1, cement content not to be less than 160 kg/ cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, laid with a paver with electronic sensor, compacting with 8-10 tonnes vibratory roller, finishing and curing complete as per specifications. MORTH Specification No. 601 **(Page No,-173, I.No.22.1 of KPWD S.R 2015-16)**								

Sl. No.	Particulars	Unit / Rate	Nos	L in m	B in m	D in m	Quantity	Rate in Rs	Total Amount in Rs
		Cum							
	Degree College Entrance CC road								
	Ch: (0 - 85)		1	85	6.00	0.075	38.25		
	Ch: (0 - 32)		1	32	6.00	0.075	14.40		
	Space in b/w Toilets								
			1	8.3	7.00	0.100	5.81		
			1	6.4	5.30	0.100	3.39		
			1	6.3	3.80	0.100	2.39		
							64.25	**3900.96**	250621.08
13	Cement concrete pavement.Construction of **un-reinforced plain cement concrete** pavement, thickness as per design, over a prepared sub base with OPC cement or any other type as per clause 1051.2.2 **design mix M30**(at 360 kg per cum coarse aggregate @ 0.69 cum and fine aggregate @0.46 cum) , with 25mm and down size graded granite metal coarse aggregates and fine aggregtes , with superplastisiser @3lts confirming to IS9103-1999 caffirmed-2008 , mixed in a concrete mixer of not less than 0.6 cum capacity and appropriate weigh batcher as per approved mix design, laid in approved fixed side form work (steel channel, laying and fixing of 125 micron thick polythene film, wedges, steel plates including levelling the form work as per drawing). Spreading the concrete with shovels, rackers compacted using needle, screed and plate vibrator and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints, joint filler, separation membrane, selant primer, joint sealant, admixtures as approved, curing compound, finishing to lines and grades as per drawing complete as per specifications.(Page No 174., I.No.22.6.1 of KPWD S.R 2015-16).								
		Cum							
	Degree College Entrance CC road								
	Ch: (0 - 85)		1	85	6.00	0.150	76.50		
	Ch: (0 - 32)		1	32	6.00	0.150	28.80		
	Space in b/w Toilets								
			1	8.3	7.00	0.100	5.81		
			1	6.4	5.30	0.100	3.39		
			1	6.3	3.80	0.100	2.39		
							116.90	**5957.28**	696382.20
14	Providing **groove cutting** for Concrete pavement width of 5mm to 10mm and depth 80mm-100mm including cost of cutting machine, generator & HOM of machinery, including cost of blade,coolant etc., including cleaning of groove & providing sand and hot bitumen fillars, and filler metal etc., including cost of conveyance of all materials, labour, lead and lift charges and all other incidental charges as per drawing and as per specifications.**(Page No 172., I.No.22.8.1 of KPWD S.R 2015-16).**								
		m							
	LONGITUDINAL								
	Degree College Entrance CC road								
	Ch: (0 - 85)		1	85			85.00		
	Ch: (0 - 32)		1	32			32.00		
	LATERAL								
	Degree College Entrance CC road								
	Ch: (0 - 85)		17	6			102.00		
	Ch: (0 - 32)		6	3			18.00		
							237.00	**124.20**	29435.40
15	KSRB 14.6-1: Providing and laying **heavy duty cobble stones 60mm thick** interlock pavers, using cement and course sand for manufacture of blocks of approved size, shape and colour with a minimum compressive strength of 281 kg per sqm over 50mm thick sand bed (average thickness) and compacting with plate vibrator having 3 tons compaction force thereby forcing part of sand underneath to come up in between joints, final compaction of paver surface joints into its final level, including cost of materials, labour and HOM of machineries complete as per specifications.Specification No. KBS **(Page No 101., I.No.14.6 of KPWD S.R 2015-16).**								

Sl. No.	Particulars	Unit / Rate	Nos	L in m	B in m	D in m	Quantity	Rate in Rs	Total Amount in Rs
		Sqm							
	Degree College Entrance Interlock road								
	Ch: (0 - 30)		1	30	4.00		120.00		
	Degree College Parking bay								
	Ch: (0 - 68)		1	68	5.80		394.40		
	Around the ground								
	Ch: (0 - 37)		1	37	4.00		148.00		
	Ch: (0 - 25)		1	25	4.00		100.00		
	Path ways								
			1	11	4.50		49.50		
			1	11	3.60		39.60		
			1	10	4.00		40.00		
	PU College								
			1	50	1.20		60.00		
							951.50	**934.20**	**888891.30**
16	KSRB 5-14 : Providing and constructing **precast concrete solid blocks** with compressive strength not less than 35 Kg/sqm with cement mortar 1:4 masonry (quoin, Jamb, closer blocks) with solid concrete blocks of size 40x15x20cms conforming to I.S: 2185/1965 in superstructure including cost of materials, labour charges, scaffolding, curing complete as per specifications. **(Page No 25., I.No.5.34 of KPWD S.R 2015-16).**								
	For Creating Band	**Sqm**							
	Degree College Entrance Interlock road								
	Ch: (0 - 30)		5	4		0.200	4.00		
	Degree College Parking bay								
	Ch: (0 - 68)		6	5.8		0.200	6.96		
	PU College								
			1	50		0.200	10.00		
							20.96	**963.36**	**20192.03**
17	KSRRB 800-1. **Painting two coats after filling the surface** with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8**(Page No 179, I.No.24.1 of KPWD S.R 2015-16).**								
		Nos							
	Degree College Entrance CC road								
	Ch: (0 - 85)		2	85		0.300	51.00		
	Ch: (0 - 29)		2	29		0.300	17.40		
	Degree College Entrance Interlock road								
	Ch: (0 - 30)		2	30		0.300	18.00		
	Degree College Parking bay								
	Ch: (0 - 68)		2	68		0.300	40.80		
	Around the ground								
	Ch: (0 - 37)		2	37		0.300	22.20		
	Ch: (0 - 25)		2	25		0.300	15.00		
	Path ways								
			2	11		0.300	6.60		
			2	11		0.300	6.60		
			2	10		0.300	6.00		
	PU College								
			2	50		0.300	30.00		
							213.60	**61.56**	**13149.22**

Sl. No.	Particulars	Unit / Rate	Nos	L in m	B in m	D in m	Quantity	Rate in Rs	Total Amount in Rs
18	KSRRB M400-17. Providing, laying, spreading and compacting graded stones aggregate to **wet mix macadam** specifications including pre mixing the material with water at OMC in mechanical mix plant carriage of mixed method of tipper to site, laying in uniform layers with paver in sub-base/base course on well prepared surface and compacting with vibratory roller to achieve the desired density complete as per specifications. MORTH Specification No. 406 **(Page No 157., I.No.20.18 of KPWD S.R 2015-16).**								
		Cum							
	PU College								
			1	50	3.00	0.225	33.75		
			1	13	3.40	0.225	9.95		
							43.70	**1713.96**	**74891.48**
19	KSRRB M500-6. Providing and applying **primer coat with S.S. bitumen emulsion** on prepared surface of granular base such as WBM,WMM ,including clearing of road surface and spraying primer at the rate of 0.60 kg / sqm using mechanical means complete as per Specifications. MORTH Specification No. 502 **(Page No 160., I.No.21.6 of KPWD S.R 2015-16).**								
		Cum							
	PU College								
			1	50	3.00		150.00		
			1	13	3.40		44.20		
							194.20	**32.40**	**6292.08**
20	KSRRB 500-7. Providing and applying **tack coat** using 80/100 grade Bitumen (VG10) on the prepared black topped surfaces at 2.5 kg per 10 sqm , heating bitumen in boiler fitted with spray set (excluding cleaning of road surface) including cost of all materials, labour, HOM of machineries complete as per specifications. MORTH/Chapter 5 **(Page No 160., I.No.21.7 of KPWD S.R 2015-16).**								
		Sqm							
	PU College								
			1	50	3.00		150.00		
			1	13	3.40		44.20		
							194.20	**15.12**	**2936.30**
21	KSRRB M500- 15. Providing, laying **dense graded bituminous macadam** using 40/60 THP capacity H.M.P with Mechanical paver Gr-II(50mm to 75mm), crushed aggregates of specified grading premixed with 4.5% VG 30 grade bituminous binder and , transporting the hot mix to work site , laying to the required level and grade, rolling with wheeled , vibratory and tandeem rollers to achieve the desired density including all leads and lift cost of all materials, labour, HOM of machineries complete as per specifications MORTH Specification No.507 **(Page No 161., I.No.21.17.6 of KPWD S.R 2015-16).**								
		Cum							
	PU College								
			1	50	3.00	0.050	7.50		
			1	13	3.40	0.050	2.21		
							9.71	**7927.20**	**76973.11**
22	KSRRB M500- 15. Providing, laying **bituminousConcrete** using **40/60 THP** capacity H.M.P with Mechanical paver Gr-II(30mm to 45mm), crushed aggregates of specified grading premixed with 6% VG 30 grade bituminous binder and , transporting the hot mix to work site , laying to the required level and grade, rolling with wheeled , vibratory and tandeem rollers to achieve the desired density including all leads and lift cost of all materials, labour, HOM of machineries complete as per specifications MORTH Specification No.509 **(Page No 164., I.No.21.22.6 of KPWD S.R 2015-16).**								
		Cum							
	PU College								

Sl. No.	Particulars	Unit / Rate	Nos	L in m	B in m	D in m	Quantity	Rate in Rs	Total Amount in Rs
			1	50	3.00	0.030	4.50		
			1	13	3.40	0.030	1.33		
							5.83	9822.60	57226.47
23	Cost towards Design Report and Detailed Estimate,PMC/Third party								4920176.60
24	**Cost of Plastic@ 8% of bitumen qty for BC**	Kg	1	65.72				27.00	73802.65
24	Misellenous and other charges								1774.37
									4246.38
	Grand Total								5000000.00

Certificate:-

1. That the workspot inspected by me and found work is necessary.
2. That the area comes with in the Bruhat Bangalore Mahanagara Palike Limits.
3. That the rates are adopted based on the PWD SR of 2015-16
4. That the provisions made in the estimate are necessary and quite essential.

Consultant:

For M/s MECADEZ CORE TECHNOLOGIES PVT LTD

Asst. Engineer
Ward No-1
BBMP

AEE
Yelhanka Sub Division
BBMP

Executive Engineer
Yelhanka Division
BBMP